

MATERIAL SAFETY DATA SHEET

MSDSMC80.SDS

Aug. 7, 1996
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24 HOUR EMERGENCY ASSISTANCE
PERS 1-800-633-8253

GENERAL MSDS ASSISTANCE
Missouri Petroleum (314) 991-2180
In-Bound WATS - 1-800-392-4295

ACUTE HEALTH*	FIRE	REACTIVITY	HAZARD RATING				
			LEAST	SLIGHT	MODERATE	HIGH	EXTREME
1	2	0	0	1	2	3	4
* FOR ACUTE AND CHRONIC HEALTH EFFECTS REFER TO THE DISCUSSION IN SECTION 3							

SECTION 1 NAME

ProductMissouri Petroleum MC800 Liquid Asphalt
 Chemical NameMixture (See Section 2A)
 Chemical FamilyPetroleum Hydrocarbon
 Missouri Petroleum
 Product CodeMC800

SECTION 2A NO.	PRODUCT/INGREDIENT COMPOSITION	CAS NUMBER	PERCENT
P	Missouri Petroleum MC800 Liquid Asphalt		
	Contains:		
1	Bitumen	8052-42-4	0-80
2	Vacuum Tower Bottoms	64741-56-6	0-79
3	Kerosene	8008-20-6	0-20
4	Gas oil, Heavy	64741-44-2	0-16
5	Naphtha, Heavy (may contain Benzene * < 0.3 %	64741-41-9	0-5
6	Hydrogen Sulfide*	7783-06-4	<0.10

*This chemical is a naturally occurring constituent in the petroleum stream and is not added separately to the product.

SECTION 2B NO.	ACUTE ORAL LD50	ACUTE TOXICITY DATA ACUTE DERMAL LD50	ACUTE INHALATION LC50
P	Not Available		
1	>5.0 G/KG (rat)	>2.0 G/KG (rabbit)	

SECTION 3 HEALTH INFORMATION

The health effects noted below are consistent with requirements under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

EYE CONTACT

Based on essentially similar component testing product is presumed to be minimally irritating to the eyes. Contact with product at elevated temperatures can result in thermal burns.

SKIN CONTACT

Based on essentially similar component testing product is presumed to be moderately irritating to the skin.

Contact with product at elevated temperatures can result in thermal burns. Prolonged and repeated contact may result in various skin disorders such as dermatitis, folliculitis, oil acne, or skin tumors.

INHALATION

Warning - Hydrogen Sulfide (H2S) and other hazardous vapors may evolve and collect in the headspace of storage tanks or other enclosed vessels. Hydrogen Sulfide is an extremely flammable, toxic gas. Inhalation of vapors, mist or fume (generated at high temperatures) may cause irritation of the nose, throat and respiratory tract, and may result in CNS depression.

INGESTION

Based on essentially similar component testing product is presumed to be no more than slightly toxic if ingested.

SIGNS AND SYMPTOMS

Irritation as noted above. Early to moderate CNS (Central Nervous System) Depression may be evidenced by giddiness, headache, dizziness and nausea; in extreme cases, unconsciousness and death may occur.

AGGRAVATED MEDICAL CONDITION

Preexisting skin and respiratory disorders may be aggravated by exposure to this product. OTHER HEALTH EFFECTS

The International Agency for Research on Cancer has determined there is sufficient evidence of carcinogenicity for extracts of steam-refined asphalts in experimental animals. Benzene is listed by the National Toxicology Program, The International Agency for Research on Cancer and OSHA as a chemical causally associated with cancer in humans.

See Section 6 for additional health information.

SECTION 4

OCCUPATIONAL EXPOSURE LIMITS

NO.	OSHA		ACGIH		OTHER TLV/STEL
	PEL/TWA	PEL/CEILING	TLV/TWA		
P		5 MG/M3*			
5	1 PPM**	10 PPM**			5 PPM***
6	10 PPM	10 PPM	15 PPM		15 PPM****

*Asphalt (Petroleum) fumes ** For Benzene.

***OSHA PEL/STEL for Benzene

***OSHA PEL/STEL

SECTION 5

EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT

Flush with water for 15 minutes while holding eyelids open. Get medical attention.

SKIN CONTACT

If hot asphalt strikes the skin, drench or immerse the area in water to assist cooling. If available, apply iced water or ice packs to the burned area. (Do not use iced water or cold packs if the burned area covers more than 10% of the body, as this may contribute to shock.) Do not try to remove asphalt from a burn after it has cooled. Seek medical attention. If cool asphalt contacts the skin, wash the area with hot soapy water. Use of a waterless hand cleaner will help to remove the asphalt.

INHALATION

Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention. Be aware that H2S may be present if victim is unconscious; make sure you are using breathing protection before attempting to remove victim to fresh air.

INGESTION

Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical advice.

NOTE TO PHYSICIAN

Note to the physician: In general, emesis induction is unnecessary in high viscosity, low volatility products, i.e. most oils and greases.

SECTION 6

SUPPLEMENTAL HEALTH INFORMATION

Breathing asphalt aerosol or asphalt smoke for protracted periods of time has produced damage to the lungs of mice. Among the changes observed were bronchitis, pneumonitis and abscess formation.

Asphalt fume condensates have been shown to produce a tumorigenic response when repeatedly applied to the skin of experimental animals. The relevance of these data to humans is not known at this time.

Repeated dermal application of high levels of middle distillate fuels in experimental animals has produced extremely severe irritation to corrosive action on the skin. Varying degrees of liver and kidney damage were noted in these studies, including congestion, enlargement, mottling, and multifocal necrosis.

Middle distillate fuels have been demonstrated to cause chromosome damage in the in vivo rat bone marrow cytogenetics assay, and mutagenic in the L51 78Y mouse lymphoma assay.

Benzene is a cancer hazard. Prolonged and repeated exposure may cause serious injury to blood forming organs and is associated with anemia and certain forms of leukemia in man. Animal studies on benzene demonstrated immunotoxicity, testicular effects and alterations in reproductive cycles, evidence of chromosomal damage or other chromosomal changes, and embryo/fetotoxicity but not teratogenicity.

H2S is irritating to the eyes and respiratory tract at low concentrations. 0.02 PPM - odor threshold. 10 PPM eye irritation. 100 PPM -headache, dizziness, vomiting, coughing. 200-300 PPM - eye inflammation, respiratory tract irritation after 1 hour exposure. 300-700 PPM - loss of consciousness or possibly death in 30 min. to an hour. 700-900 PPM - rapid loss of consciousness; death can result. >1000 PPM - unconsciousness in seconds; death in minutes unless victim is removed from contaminated area and breathing is restored. Do not depend on sense of smell for warning. H2S causes rapid olfactory fatigue (deadens sense of smell). There is no evidence that H2S will accumulate in the body tissue after repeated exposure.

SECTION 7

PHYSICAL DATA

Boiling Point: Not Available (Deg F)	Specific Gravity: 0.9826 (H2O = 1)	Vapor Pressure: Not Available (MM HG)
Melting Point: Not Available (Deg F)	Solubility: Negligible (in Water)	Vapor Density: Not Available (Air = 1)
Evaporation Rate (N-Butyl Acetate 1):	Not Available	

Appearance and Odor:
Black Viscous Semisolid. Asphalt Odor.

SECTION 8

FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD: 200 Deg F (Closed Cup)	FLAMMABLE LIMITS/ % VOLUME IN AIR Lower: N/AV Upper: N/AV
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EXTINGUISHING MEDIA

Dry Chemical or foam preferred. Water fog may be used on flat surfaces such as roads.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS

Caution: Combustible. Do not use water on asphalt fire in tank or other containers since it may cause violent eruption and spreading of burning asphalt. Material will not burn unless preheated. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Caution: This material is routinely blended, dispensed and applied at temperatures above the flash point. Therefore, keep away from sources of ignition. Containers exposed to intense heat from fire should be cooled with water. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed, Sulfur Oxides and Hydrogen Sulfide, both of which are toxic, may be released upon combustion. H₂S vapors are heavier than air, may accumulate in low areas and travel along the ground to a remote ignition source; if ignited will flash back to original container.

SECTION 9**REACTIVITY**

Stability: Stable

Hazardous Polymerization: Will Not Occur

CONDITIONS AND MATERIALS TO AVOID:

Do not allow molten product to contact water or liquids as this can cause violent eruptions, splatter hot material or ignite flammable materials.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition products are highly dependent on the combustion conditions. A complex mixture of airborne solid, liquid, particulates and gases will evolve when this material undergoes pyrolysis or combustion. Carbon monoxide and other unidentified organic compounds may be formed upon combustion.

SECTION 10**EMPLOYEE PROTECTION****RESPIRATORY PROTECTION**

If exposure may or does exceed occupational exposure limits (Sec. 4) use a NIOSH-approved respirator to prevent overexposure. In accord with 29 CFR 1910.134 use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors.

PROTECTIVE CLOTHING

Avoid contact with eyes. Wear safety glasses or goggles as appropriate. Avoid prolonged or repeated contact with skin. Wear gloves and other clothing as required to minimize contact.

SECTION 11**ENVIRONMENTAL PROTECTIONS****SPILL OR LEAK PROCEDURES**

Caution. Combustible. ***Large Spills*** Eliminate potential sources of ignition. Wear appropriate respirator and other protective clothing. Shut off source of leak only if safe to do so. Dike and contain. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material; place in non-leaking containers and seal tightly for proper disposal. Flush area with water to remove trace residue; dispose of flush solution as above. *** Small Spills*** take up with an absorbent material and place in non-leaking containers for proper disposal.

SECTION 12**SPECIAL PRECAUTIONS**

When asphaltic products are heated, they often give off small amounts of Hydrogen Sulfide. Hydrogen Sulfide is an extremely flammable, highly toxic gas. Breathing Hydrogen Sulfide must be avoided. Minimize breathing of vapors, fumes, or mist; when possible, use ventilation or work upwind of source of vapors, fumes and mist. Launder contaminated clothing before using. Discard leather goods when they cannot be decontaminated. Observe good personal hygiene. Wash thoroughly after working with asphalt and before eating or smoking.

SECTION 13**TRANSPORTATION REQUIREMENTS****DEPARTMENT OF TRANSPORTATION CLASSIFICATION:**

Class 3 (Flammable Liquid), III

D.O.T. PROPER SHIPPING NAME:

ELEVATED TEMPERATURE LIQUID, flammable,

n.o.s., with flash point above 37.5 C, at or above its flashpoint

OTHER REQUIREMENTS:

3, UN 3256, PG 111

SECTION 14

OTHER REGULATORY CONTROLS

The components of this product are listed on the EPA/TSCA Inventory of Chemical Substances.

Protection of stratospheric ozone (pursuant to Section 611 of the Clean Air Act Amendments of 1990): per 40 CFR Part 82, this product does not contain nor was it directly manufactured with any Class I or Class 11 ozone depleting substances.

In accordance with SARA Title III, Section 313, the attached Environmental Data Sheet (EDS) should always be copied and sent with the MSDS.

SECTION 15

STATE REGULATORY INFORMATION

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

STATE LISTED COMPONENT	PERCENT	STATE CODE
Bitumen (Petroleum Asphalt) (CAS NO: 8052-42-4)	0-65	CA, CT, FL, IL, LA, MA, ME, MN, NJ, PA, RI
Soot, Tars, and certain mineral oils (CAS NO: 64741-56-6)	0-65	CA65C
Kerosene (CAS NO: 8008-20-6)	0-35	CT, FL, LA, MA, PA, RI
Soots, Tars, and certain mineral oils (CAS NO: 64741-44-2)	0-26	CA65C
Soots, Tars, and certain mineral oils (CAS NO: 64741-41-9)	0-9	CA65C
Benzene (CAS NO: 71-43-2)	< 2	CA, CT, FL, IL, LA, MA, ME, MN, PA, RI, CA65C
Hydrogen Sulfide (H2S) (CAS NO: 7783-06-4)	<0.10	MA

CA = California Haz. Subst. List; CA65C CA65R CA65C/R = California Safe Drinking Water and Toxics Enforcement Act of 1986 or proposition 65 list; CT = Connecticut Toxic Subst. List; FL = Florida Subst. List; 11 = Illinois Tox. Subst. List; LA = Louisiana Haz. Subst. List; MA = Massachusetts Subst. List; ME = Maine Haz. Subst. List; MN Minnesota Haz. Subst. List; NJ = New Jersey Haz. Subst. List; PA = Pennsylvania Haz. Subst. List; RI Rhode Island Haz. Subst. List.

California Proposition 65 Footnote: CA65C = The chemical identified with this code is known to the State of California to cause cancer, CA65R = the chemical identified with this code is known to the State of California to cause birth defects or other reproductive harm. CA65C/R = The chemical identified with this code is known to the State of California to cause both cancer and birth defects or other reproductive harm.

SECTION 16

SPECIAL NOTES

This MSDS has changes in Sections 2 and 13 and Sections 1 and 3 of the Environmental Section. The information contained herein is based on the data available to us and is believed to be correct. However, Missouri Petroleum makes no warranty, expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Missouri Petroleum assumes no responsibility for injury from the use of the product described herein.

Date prepared: Aug. 7, 1996

BE SAFE

**READ OUR PRODUCT
SAFETY INFORMATION ... AND PASS IT ON
(PRODUCT LIABILITY LAW REQUIRES IT)**

SEE SUPPLEMENTAL ENVIRONMENTAL DATA ON PAGE 7 OF 7

ENVIRONMENTAL DATA

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Product Missouri Petroleum MC800 Liquid Asphalt
 Product Code

MC800

SECTION 1 NO.	PRODUCT/COMPOSITION COMPONENT CAS NUMBER	PERCENT
P	MC800 Liquid Asphalt	Missouri Petroleum
	Contains:	
1	Bitumen 8052-42-4	0-80
2	Vacuum Tower Bottoms 64741-56-6	0-79
3	Kerosene 8008-20-6	0-20
4	Gas Oil, Heavy 64741-44-2	0-16
5	Naphtha, Heavy 64741-41-9	0-5
5A	Benzene ¹ 71-43-2	<0.3
6	Hydrogen Sulfide* 7783-06-4	<0.10

*This chemical is a naturally occurring constituent in the petroleum stream and is not added separately to the product.

SECTION 2 NO.	SARA TITLE III INFORMATION	311/312 CATEGORIES
	EHS RQ (LBS) EHS TPQ (LBS) SEC 313 313 CATEGORY 311/312 CATEGORIES	
	(*1) (*2) (*3) (*4) (*5)	
P		H-1, H-2, P-3
5A	YES	
6	100 500	H-1, P-3

FOOTNOTES

- *1 = Reportable quantity of extremely hazardous substance, SEC. 302
- *2 = Threshold planning quantity, extremely hazardous substance, SEC 302
- *3 = Toxic Chemical, SEC 313
- *4 = Category as required by SEC 313 (40 CFR 372.65 C). Must be used on toxic release inventory form.
- *5 = Hazard category for SARA SEC. 311 /312 reporting.
 Health H-1 Immediate (Acute) health hazard. H-2 = Delayed (Chronic) health hazard.
 Physical P-3 Fire hazard. P-4 = Sudden release of pressure hazard. P-5 = Reactive hazard.

SECTION 3 ENVIRONMENTAL RELEASE INFORMATION

This product is an oil under 49 CFR (DOT) Part 130. If shipped by rail or highway in a tank with a capacity of 3,500 gallons or more, it is subject to the requirements of part 130. Mixture solutions in which this product is present at 10% or more may also be subject to this rule.

This product is covered by EPA's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) petroleum exclusion. Therefore, releases to air, land, or water are not reportable under CERCLA ("Superfund"). However, under Section 311 of EPA's Clean Water Act (CWA), this product is considered an oil. As such, spills into or leading to surface waters that cause a sheen must be reported to the National Response Center, 800-424-8802.

SECTION 4 RCRA INFORMATION

If this product becomes a waste, it would not be a hazardous waste by RCRA criteria (40 CFR 261). Place in an appropriate disposal facility in compliance with local regulations.

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Date prepared: Aug. 7, 1996

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